Ch 2, Data Analytics: Drawing Conclusions, Part 1

# Solution specifications (Informatics, p 78)

The SAT comprises 2 solutions:

The solution for Unit 3, Outcome 2 is the information you create from the data you collect and analyse. This information is used to support or refute your hypothesis.

The solution for Unit 4, Outcome 1, is the multimodal online solution, (MMOS) that communicates your findings about the hypothesis.

In creating the solutions for the SAT you will be using the PSM to guide the development.

# Analysis Stage:

# Solution Requirements:

## Functional requirements

1. **What do you understand by “functional requirements” of the solution?**

Functional requirements describe the tasks that your solution should be able to perform. In other words, functional requirements are the things that you want your solution to be able to do.

1. **What will the main functional requirement be of your Outcome’s information?**

The main function of the outcomes information will be that it lets you reach a valid and verified conclusion, regardless if this supports or refutes your hypothesis.

## Non-Functional requirements

1. **Explain what is meant by non-functional requirements of the solution.**

Non-functional requirements describe the attributes or qualities that your solution should have. A non-functional requirement will probably not be achieved in one specific place in a solution. It usually requires a combination of factors across the entire solution.

# Data requirements

1. **What steps need to be performed on data to help support your hypothesis?**

You must find, select, reference, organise, process and interpret data to produce information to enable you to reach a conclusion,

# Constraints, p 80

1. **What are constraints on a solution? Give an example of each of the following five categories of constraints:**

Constraints are limiting factors or conditions you need to consider when you are designing a solution. A constraint will usually reduce your freedom of design choice.

* 1. **Economic**

Economic constraints include cost and time. An example of a cost constraint is hosting the solution on a website will cost $81 for two years, plus $19 for domain registration. An example for a time constraint is that a solution will take 10 weeks to build and deliver in full.

* 1. **Technical**

Technical constraints include speed of processing, capacity, availability of equipment and compatibility and security. An expel for speed of processing is if a solution should be hosted on a server with at least 8GB RAM to optimise performance. An example for capacity is if the solution will host hundreds of image files; at least 1TB of disk space is required.

An example of the availability of equipment is if the solution was to be used on mobile devices only. Also, an example for the compatibility and security id if a solution should verify its identity to users by sending a digital certificate.

* 1. **Social**

The social constraint is the level of expertise in users. An example of this would be that users may be pre-school students, so the solution should use more images than words.

* 1. **Legal**

Legal constraints include ownership and privacy of data requirements. An example of ownership is if a solution is to be owned by the company commissioning it. An example for the privacy of data requirements is that all data used in the solution has to be de-identified to protect respondents, as well as abide by APPs.

* 1. **Useability**

The two constraints for useability are usefulness and ease of use of solutions. An example of useability is that the solution should use images and words to expand the vocabulary of pre-school children as a learning tool. An example of ease of use of solutions is that the solution should be simple to learn and navigate by under 5s using images only.

# Scope, p 81

1. **What does the scope of a solution refer to?**

The scope of solution is identifying what solution will be and what you expect it to achieve.

1. **Why is it important to define the scope?**

It is important to define the scope precisely so developers can allocate time and resources accurately and know when contractual obligations have been met.

1. **What is the scope of a solution largely defined by?**

The scope of solution is largely defined by its functional and non-functional requirements, and may include lists of functions that are not required.